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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,746

09/22/2006

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EXAMINER

HAMILTON, CYNTHIA

ART UNIT

PAPER NUMBER

1795

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/593,746	<b>Applicant(s)</b> PATEL ET AL.	
	<b>Examiner</b> Cynthia Hamilton	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-12 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

#### **Restriction is required under 35 U.S.C. 121 and 372.**

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-6, drawn to **a layerwise optical moulding process** comprised of forming layers comprised of photocurable compositions comprised of at least two curable components:

(i) **at least 70%** by weight of the total curable components in the composition is a first component that is photocurable and that is such that, when cured in the presence of a photocuring initiator by exposure to UV radiation having an energy of  $30 \text{ mJ/cm}^2$ , at least 90% by weight of the component **is cured within 50 milliseconds**; and (ii) at least 5% by weight of the total curable components in the composition is a second component that results in the composition, on curing, shrinking, in a linear direction, by less than 3% in length.

Group II, claim(s) 7-12, drawn to An optical moulding composition comprising, in weight percent: (a) at least two curable components: (i) a first component in an amount of **at least 80%**, based on the total weight of the Curable components in the composition, the first component being photocurable and such that, when cured in the presence of a photocuring initiator by exposure to UV radiation having an energy of  $30 \text{ mJ/cm}^2$ , at least 90% by weight of the component **is cured within 100 milliseconds**; and (ii) a curable second component in an amount of at least 5% by weight of the total curable components in the composition, the second

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component being a compound having at least one terminal thiol group, (b) 1 to 10%, by weight, of a cationic photoinitiator, (c) 0.01 to 10%, by weight, of a radical photoinitiator, (d) 0 to 5% by weight of a stabilizer against premature curing prior to use in the process, and (e) 0 to 20% by weight of auxiliary materials.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group II is a composition and Group I is a method of using a subset of the composition of Group II. The composition of Group II requires a first component being photocurable and such that, when cured in the presence of a photocuring initiator by exposure to UV radiation having an energy of  $30 \text{ mJ/cm}^2$ , at least 90% by weight of the component is cured within 100 milliseconds. The composition used in the process of Group I requires that the curing of the first component occur within 50 milliseconds. Thus, the first component of Group II composition is broader in scope than that required to practice the process of Group I. Further, with respect to the second component of the composition of Group II, the component is required to be a compound having at least one terminal thiol group but has no limit to a second component that results in the composition, on curing, shrinking, in a linear direction, by less than 3% in length as is part of the composition used in Group I process. The Group one process is not required to use a compound having at least one terminal thiol group, a cationic photoinitiator and radical photoinitiator.

However, the method of using in Group I is not especially adapted for use with the composition of Group II as evidenced by the lack of limiting the Group I process to compositions

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wherein the second component is a compound having at least one terminal thiol group, the composition has present a radical photoinitiator and a cationic photoinitiator, Group I process is requires that the first component (i) have the capability of being cured within 50 milliseconds by exposure to some wavelength of UV radiation having an energy of  $30 \text{ mJ/cm}^2$ . The compositions of Group I require that the first component has the property of being cured in the presence of a photocuring initiator by exposure to UV radiation having an energy of  $30 \text{ mJ/cm}^2$ , component is curable in the presence of a photocuring initiator by exposure to UV radiation.

Thus, the features linking Group I and Group II are a molding composition with a first component and a second component at least 5% by weight wherein the first component can be cured in the presence of a photocuring initiator by exposure to UV radiation having an energy of  $30 \text{ mJ/cm}^2$ , at least 90% by weight. DE 4440819 A1( made of record by applicant) as evidenced by the English abstract AN 1995:896120 from ACS on STN sets forth such a molding composition with 76.1 percent diacrylate compound and 19.9 percent pentaerythritol tetrakis (3-mercaptopropionate) cured by optical molding technique of stereolithography and low curl factor. This composition reads on the special technical features which relate Group I to Group II.

Due to the complexity of this requirement and the citation of art required for full consideration of election, no attempt was made to request an oral election to the above restriction requirement.

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Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention or species may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the product, and the product claims are subsequently found allowable, withdrawn process claims that depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully

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examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained.

Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

*Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-1331.*

*The examiner can normally be reached on Monday through Friday 8:30 am to 5:00 pm.*

*If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on (571) 272-0729. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.*

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*Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.*

/Cynthia Hamilton/  
Primary Examiner, Art Unit 1795

June 1, 2009